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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,960	08/08/2001	Satoru Nakamura	212531US2	2084

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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MILIA, MARK R

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/923,960

Applicant(s)

NAKAMURA, SATORU

Examiner

Mark R. Milia

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 August 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment was received on 8/15/05 and has been entered and made of record.

### ***Drawings***

2. Applicant's amendment to Fig. 1 has overcome the objection as cited in the previous Office Action and therefore the objection has been withdrawn.

### ***Specification***

3. Applicant's amendment to the specification to correct a minor informality has overcome the objection to the specification as cited in the previous Office Action. Therefore, the objection has been withdrawn.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection. In particular, the examiner agrees that

the reference of Sasanuma '644 fails to disclose varying the number of image pixels per image dot o correct tone, as stated on page 16 of the arguments. However, the examiner disagrees that the reference of Sasanuma '644 teaches conforming the actual pixel size to the intended pixel size as the reference only seems to teach that a tone adjustment correction is made by comparing the difference between the actual and intended image densities and that the difference is corrected by adjusting the output level of the image. It is not clear from the citations made on page 16 of the arguments that in the reference of Sasanuma '644 it states the adjustment of the image is carried out by conforming the actual pixel size of the intended pixel size. Further, a new ground(s) of rejection is made in view of the current amendments to the claims and newly found prior art. Newly added claims 28-36 will be addressed in the following rejection.

***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-2, 6-7, 10-11, 15-16, 19-20, 24-25, and 28-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasanuma (U.S. Patent No. 5583644) in view of U.S. Patent No. 5737665 to Sugiyama.

Regarding claims 1 and 19, Sasanuma discloses a printer controller and tangible computer-readable storage medium which stores a program (see column 8 lines 35-38)

configured to generates pattern data for use in a tone adjusting process, said printer controller comprising: a selecting unit configured to select a dot size of a reference tone pattern (see column 4 lines 26-33, column 6 lines 1-30, and column 6 lines 64-column 7 lines 27), and a generating unit configured to generate and output said reference tone pattern having the dot size selected by said selecting unit and tone adjusting patterns having tones of a predetermined range including a reference tone of said reference tone pattern (see Fig. 3, column 4 lines 6-27 and 56-59, column 5 lines 46-49, and column 6 lines 15-37).

Sasanuma does not disclose expressly varying a number of pixels forming each dot of the reference tone pattern.

Sugiyama discloses varying a number of pixels forming each dot of the reference tone pattern (see column 3 lines 25-32, column 4 lines 55-62, column 5 lines 8-17, column 6 lines 36-54, and column 7 lines 16-40).

Regarding claim 10, Sasanuma discloses an image forming apparatus comprising a printer controller configured to generate pattern data (see Fig. 1 and column 3 lines 12-32), a printer engine configured to print the pattern data generated by said printer controller (see Fig. 1 and column 3 line 36-column 4 line 5), said printer controller comprising: a selecting unit configured to select a dot size of a reference tone pattern (see column 4 lines 26-33, column 6 lines 1-30, and column 6 lines 64-column 7 lines 27), and a generating unit configured to generate and output a reference tone pattern having the dot size selected by said selecting unit and tone adjusting patterns having tones of a predetermined range including a reference tone of said reference tone

pattern (see Fig. 3, column 4 lines 6-27 and 56-59, column 5 lines 46-49, and column 6 lines 15-37).

Sasanuma does not disclose expressly varying a number of pixels forming each dot of the reference tone pattern.

Sugiyama discloses varying a number of pixels forming each dot of the reference tone pattern (see column 3 lines 25-32, column 4 lines 55-62, column 5 lines 8-17, column 6 lines 36-54, and column 7 lines 16-40).

Regarding claims 31, 33, and 35, Sasanuma discloses a method and a printer controller configured to generate pattern data (see Fig. 1 and column 3 lines 12-32), printed by a printer engine (see Fig. 1 and column 3 line 36-column 4 line 5), for use in a tone adjusting process, said printer controller comprising: means for selecting a dot size of a reference tone pattern (see column 4 lines 26-33, column 6 lines 1-30, and column 6 lines 64-column 7 lines 27) and means for generating and outputting, to the printer engine, said reference tone pattern having the dot size selected by said selecting means and tone adjusting patterns having tones of a predetermined range including a reference tone of said reference tone pattern (see Fig. 3, column 4 lines 6-27 and 56-59, column 5 lines 46-49, and column 6 lines 15-37).

Sasanuma does not disclose expressly varying a number of pixels forming each dot of the reference tone pattern.

Sugiyama discloses varying a number of pixels forming each dot of the reference tone pattern (see column 3 lines 25-32, column 4 lines 55-62, column 5 lines 8-17, column 6 lines 36-54, and column 7 lines 16-40).

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Sasanuma & Sugiyama are combinable because they are from the same field of endeavor, detection and correction of image tone density.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the varying of a number of pixels forming each dot of the reference tone pattern as described by Sugiyama with the system of Sasanuma.

The suggestion/motivation for doing so would have been to provide high print quality with greater accuracy (see column 5 lines 15-18 and 52-55 of Sugiyama).

Therefore, it would have been obvious to combine Sugiyama with Sasanuma to obtain the invention as specified in claims 1, 10, 19, 31, 33, and 35.

Regarding claims 2, 11, and 20, Sasanuma and Sugiyama disclose the system discussed in claims 1, 10, and 19, and Sasanuma further discloses wherein said selecting unit is configured to select the dot size in response to an external input (see column 6 line 64-column 7 line 27 and column 8 lines 33-35).

Regarding claims 6, 15, and 24, Sasanuma and Sugiyama disclose the system discussed in claims 1, 10, and 19, and Sasanuma further discloses wherein said selecting unit is configured to select the dot size depending on a resolution which is input to the printer controller (see column 4 lines 10-33 and column 4 line 60-column 5 line 49).

Regarding claims 7, 16, and 25, Sasanuma and Sugiyama disclose the system discussed in claims 1, 10, and 19, and Sasanuma further discloses wherein said selecting unit is configured to select the dot size depending on each of basic colors

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used by corresponding image forming sections of a printer engine (see column 7 line 35-column 8 line 7).

Regarding claims 28-30, 32, 34, and 36, Sasanuma and Sugiyama disclose the system discussed in claims 1, 10, 19, 31, 33, and 35, and Sugiyama further discloses wherein the generating unit is configured to generate means for determining one of the tone adjusting patterns matching the reference tone pattern (see column 5 lines 43-55).

7. Claims 3, 12, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasanuma and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of U.S. Patent No. 6367992 to Aruga et al.

Sasanuma discloses wherein said selecting unit is configured to automatically select the dot size (see column 4 lines 10-59).

Sasanuma and Sugiyama do not disclose expressly selecting the dot size depending on a counted value of a maintenance counter, said counted value indicating a total operating time of a printer engine.

Aruga discloses a maintenance counter, said counted value being received from the printer engine and indicating a total operating time of the printer engine (see the abstract, Figs. 1A and 6, column 2 lines 1-8, column 5 lines 15-41, column 6 lines 33-42, column 8 line 66-column 9 line 7, column 10 lines 17-29 and 46-47, and column 11 lines 3-18).

Sasanuma, Sugiyama, & Aruga are combinable because they are from the same field of endeavor, print systems to ensure high quality printing.



At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the counter aspect of Aruga with the system of Sasanuma and Sugiyama.

The suggestion/motivation for doing so would have been to provide a way to easily check the wear on consumables to ensure high printer quality (see column 11 lines 13-18 of Aruga).

Therefore, it would have been obvious to combine Aruga with Sasanuma and Sugiyama to obtain the invention as specified in claims 3, 12, and 21.

8. Claims 4, 13, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasanuma and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of U.S. Patent No. 5797061 to Overall et al.

Sasanuma discloses wherein said selecting unit is configured to automatically select the dot size (see column 4 lines 10-59).

Sasanuma and Sugiyama do not disclose expressly selecting the dot size depending on an output value of a toner sensor, said output value indicating a remaining amount of toner within a printer engine.

Overall discloses an output value of a toner sensor, said output value being received from the printer engine and indicating a remaining amount of toner within the printer engine (see Figs. 1, 2, and 7, column 2 lines 61-67, column 5 lines 42-54, column 8 lines 14-27 and 38-47, column 11 lines 1-21, column 12 lines 41-60, and column 13 lines 38-62).

Sasanuma, Sugiyama, & Overall are combinable because they are from the same field of endeavor, reliable reproduction of print data onto a print medium.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the toner level usage aspect of Overall with the system of Sasanuma and Sugiyama.

The suggestion/motivation for doing so would have been to provide a more accurate tracking system to allow higher predictability of reproduced resolution and increases gradation matching between the original document and the reproduced document.

Therefore, it would have been obvious to combine Overall with Sasanuma and Sugiyama to obtain the invention as specified in claims 4, 13, and 22.

9. Claims 5, 14, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasanuma and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of U.S. Patent No. 6618162 to Wiklof et al.

Sasanuma discloses wherein said selecting unit is configured to automatically select the dot size (see column 4 lines 10-59).

Sasanuma and Sugiyama do not disclose expressly selecting the dot size depending on an engine ID stored in a register, said engine ID indicating a type of a printer engine.

Wiklof discloses an engine ID stored in a register, said engine ID being received from the printer engine and indicating a type of a printer engine (see column 5 line 41- column 6 line 28).

Sasanuma, Sugiyama, & Wiklof are combinable because they are from the same field of endeavor, printer configuration to ensure printer performance.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the engine type identifier of Wiklof with the system of Sasanuma and Sugiyama.

The suggestion/motivation for doing so would have been to provide increased performance based on hardware components capabilities.

Therefore, it would have been obvious to combine Wiklof with Sasanuma and Sugiyama to obtain the invention as specified in claims 5, 14, and 23.

10. Claims 8, 17, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasanuma and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of U.S. Patent No. 6076915 to Gast et al. and to Japanese Patent Document No. 11-070701 to Watabe as cited on Information Disclosure Statement date August 8, 2001. Reference will be made to computer translation of Japanese Patent Document No. 11-070701 and is therefore attached to this Office Action.

Sasanuma and Sugiyama do not disclose expressly wherein said generating unit is configured to generate said reference tone pattern and the tone adjusting patterns such that said reference tone pattern includes a central portion and reference sector

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portions arranged intermittently around said central portion, the tone adjusting patterns include adjusting sector portions arranged intermittently around said central portion and each respectively located between two of the reference sector portions, whereby each of the adjusting sector portions has three sides respectively adjacent to said central portion and two of the reference sector portions.

Watabe discloses wherein said generating unit is configured to generate said reference tone pattern and the tone adjusting patterns which allows the operator to compare and match the tone patterns in which the patterns are arranged adjacent to each other (see Drawings 8 and 13 and paragraphs [0027]-[0037]).

Gast discloses a printer calibration system in which a variety of shapes and sizes can be used to allow an operator to visually match the test patterns (see Figs. 4 and 9, column 5 lines 23-25 and 55-60, column 6 lines 4-63, and column 7 line 59-column 8 line 24)

Sasanuma, Sugiyama, Gast & Watabe are combinable because they are from the same problem solving area, printing adjustments using test pattern techniques.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the test pattern of gradation technique disclosed by Watabe with the calibration technique using a circular pattern as disclosed by Gast and use the combined technique with the system of Sasanuma and Sugiyama.

The suggestion/motivation for doing so would have been to allow easy visual pattern matching regardless of the calibration axis (see column 8 lines 15-25 of Gast).

Therefore, it would have been obvious to combine Gast and Watabe with Sasanuma and Sugiyama to obtain the invention as specified in claims 8, 17, and 26.

11. Claims 9, 18, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasanuma and Sugiyama as applied to claims 1, 10, and 19 above, and further in view of U.S. Patent No. 5258783 to Sasanuma et al.

Sasanuma (644) and Sugiyama do not disclose expressly a correcting unit configured to determine a gamma-correction based on an external input, the external input being based on a printed output of the reference tone pattern and the tone adjusting patterns generated by said generating unit.

Sasanuma (783) a correcting unit configured to determine a gamma-correction based on an external input, the external input being based on a printed output of the reference tone pattern and the tone adjusting patterns generated by said generating unit (see Figs. 2 and 4, column 1 lines 34-45, column 3 lines 29-51, and column 4 lines 5-32).

Sasanuma (644), Sugiyama, & Sasanuma (783) are combinable because they are from the same field of endeavor, print system to improve image quality.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the gamma-correction aspect of Sasanuma (783) with the system of Sasanuma (644) and Sugiyama.

The suggestion/motivation for doing so would have been to prevent deterioration of image quality in image reproduction.

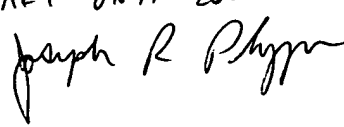
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (571) 272-7408. The examiner can normally be reached M-F 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached at (571) 272-7402. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark R. Milia  
Examiner  
Art Unit 2622

MRM

JOSEPH R POKRZYWA  
PRIMARY EXAMINER  
ART UNIT 2622  


Therefore, it would have been obvious to combine Sasanuma (783) with Sasanuma (644) and Sugiyama to obtain the invention as specified in claims 9, 18, and 27.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. To further show the state of the art refer to the attached Notice of References Cited.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.